

CLAIMS

What is claimed is:

1 1. A method for improving performance of a signal transmitted
2 via a conductive circuit trace of a circuit board, the method
3 comprising the step of:

4 reducing a surface roughness of at least one surface of
5 the conductive circuit trace.

1 2. The method as in Claim 1, wherein the step of reducing the
2 surface roughness includes one of a group consisting of:
3 electropolishing the at least one surface; chemical polishing
4 the at least one surface; electroplating the at least one
5 surface; and vacuum depositing conductive material on the at
6 least one surface.

1 3. The method as in Claim 1, wherein the surface roughness of
2 the at least one surface is reduced to no more than 20
3 microinches root-mean-squared (RMS).

1 4. The method as in Claim 1, wherein the surface roughness of
2 the at least one surface is reduced to no more than 10
3 microinches root-mean-squared (RMS).

1 5. The method as in Claim 1, wherein the surface roughness of
2 the at least one surface is reduced to no more than 5

3 microinches root-mean-squared (RMS).

1 6. The method as in Claim 1, wherein the at least one surface
2 of the conductive circuit trace includes one of a group
3 consisting of: a surface parallel and distal to a surface of
4 the circuit board; a surface parallel and proximal to the
5 surface of the circuit board; and a surface perpendicular to
6 the surface of the circuit board.

1 7. A circuit board for transmitting at least one signal, the
2 circuit board comprising:

3 at least one conductive circuit trace for carrying at
4 least one signal, the at least one conductive circuit trace
5 having at least one polished surface.

1 8. The circuit board as in Claim 7, wherein the at least one
2 polished surface is polished using one a group consisting of:
3 electropolishing; chemical polishing; electroplating; and
4 vacuum deposition.

1 9. The circuit board as in Claim 7, wherein a surface
2 roughness of the at least one polished surface is no more than
3 20 microinches root-mean-squared (RMS).

1 10. The circuit board as in Claim 7, wherein a surface
2 roughness of the at least one polished surface is no more than
3 10 microinches root-mean-squared (RMS).

1 11. The circuit board as in Claim 7, wherein a surface
2 roughness of the at least one polished surface is no more than
3 5 microinches root-mean-squared (RMS).

1 12. The circuit board as in Claim 7, wherein the at least one
2 polished surface of the conductive circuit trace includes one
3 of a group consisting of: a surface parallel and distal to a
4 surface of the circuit board; a surface parallel and proximal
5 to the surface of the circuit board; and a surface
6 perpendicular to the surface of the circuit board.

1 13. A conductive circuit trace for carrying a signal, the
2 conductive circuit trace comprising:

3 conductive material having a plurality of surfaces
4 substantially parallel with a direction of propagation of the
5 signal;

6 wherein the plurality of surfaces includes at least one
7 polished surface having a reduced surface roughness.

1 14. The conductive circuit trace as in Claim 13, wherein the
2 at least one polished surface is polished using one of a group

3 consisting of: electropolishing; chemical polishing;
4 electroplating; and vacuum deposition.

1 15. The conductive circuit trace as in Claim 13, wherein the
2 reduced surface roughness of the at least one polished surface
3 is no more than 20 microinches root-mean-squared (RMS).

1 16. The conductive circuit trace as in Claim 13, wherein the
2 reduced surface roughness of the at least one polished surface
3 is no more than 10 microinches root-mean-squared (RMS).

1 17. The conductive circuit trace as in Claim 13, wherein the
2 reduced surface roughness of the at least one polished surface
3 is no more than 5 microinches root-mean-squared (RMS).

1 18. The conductive circuit trace as in Claim 13, wherein the
2 at least one polished surface includes one of a group
3 consisting of: a surface parallel and distal to a surface of
4 the circuit board; a surface parallel and proximal to the
5 surface of the circuit board; and a surface perpendicular to
6 the surface of the circuit board.